Hello students, we are looking at

course code CHS 102. Course title

Chemistry of Cosmetics and Perfumes.

That title of this unit is cosmetic

formulation principles and preparations.

This module deals with essential oils

and their importance in the cosmetic

industry with reference to four essential

oils that is two phenylethyl alcohol,

Jasmone, Civeton and Muscone.

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A brief outline of what we will be studying:

That is the definition of essential

oils and the methods for it’s use.

Importance of the following essential

oils in the cosmetic industry.

2-Phenylethyl alcohol, Jasmone,

Civetone and Muscone. At the

end of this module students, you

will be able to explain what are

essential oils along with methods

for their extraction and use,

state the importance of essential oils

such as two phenyl ethyl alcohol, jasmone, Civeton

and Muskone in the cosmetic industry,

and finally elucidate and identify

structures of the above essential oils.

A brief introduction: the

benefits of essential oils have

been recognized over the ages.

It was the Egyptians who first used

essential oils for medicinal purposes,

religious rights and embalming processes.

In India also essential oils

played an integral role in the

Indian Ayurvedic medicinal system.

Oils were also used in Persia, China, etc.

So what are essential oils?

Essential oils are the natural mixtures

of organic compounds that are aromatic in nature,

which are found in seeds,

bark, stems and in other parts of plants,

as well as in animals.

They are non-water based

phyto chemicals made up of volatile aromatic

compounds and are highly concentrated.

They do not contain artificial substances,

unlike perfumes and fragrance oils.

Terpenes are the key components

of all essential oils.

Now the distinctive character of an

essential oil is attributed to the

functional group in the key molecule.

These functional groups can include esters,

ethers, aldehydes, lactones,

ketones and alcohols.

So how are essential oils extracted?

It is ideally done by two methods:

the first being distillation,

the second is expression method.

Now distillation can be either

through water distillation or steam

distillation. Expression method,

also known as cold pressing is usually

employed to extract essential oils of

citrus fruits like maybe lemon, tangerine etc.

Let us now look into detail at

the essential oil 2-phenyl ethyl alcohol.

So this is a colourless,

transparent and slightly viscous liquid found in

cosmetics and personal care products.

Itis used in the formulation

of eye makeup, skin care products,

shampoos, perfumes and colognes.

Prevents bacterial

growth and thus it helps to

protect the cosmetics and personal

care products from spoilage.

It also gives fragrance to the product.

Here you can see a structure

of the essential oil.

Next we look at Jasmone.

Now Jasmone is an organic compound and

essential oil whose volatile portion

is derived from the Jasmine flower,

from which it gets its name.

Jasmine essential oil is a

go to tonic for beautiful,

balanced and glowing skin.

It also helps to get rid of

dark spots and unevenness,

and helps to lighten acne scars overtime,

revealing healthy and radiant skin.

That is the reason why it is

used in many skin care products

in the cosmetic industry.

It also acts as an effective antibacterial

which Soothes dry skin and eczema.

Here you can see Jasmine flowers,

from which the oil Jasmone is

extracted along with the structure

of Jasmone and it's IUPAC name.

This is a ketone.

Next we move on to Civetone, which is

a white crystalline macro cyclic ketone.

Macrocyclic meaning a compound having

12 or more than 12 carbon atoms.

It is readily soluble in alcohol

and is used in fine perfumery.

It possesses the advantage of a clean odour.

So many of the expensive perfumes

if you have seen, have an ingredient mentioned

that you notice is Civetone.

Civetone is also used as a perfume

fixative and as a flavouring agent.

Civetone occurs in the

gland of the African Civet at.

This is a cat having Black fur.

Nowadays, because Civetone was

being extracted from the animal,

it has been replaced by something

known as cyclopentadienyl,

which is marketed under the

name of exalt and used in fine perfumery.

So here you can see the

black African civet cat,

which is the original source of Civetone.

This is the structure of

the macrocyclic molecule,

along with its IUPAC name.

Next IS Muscone. So Muscone is also an

organic compound that is the primary

contributor to the order of Musk.

Many of you might have noticed

Musk flavoured perfumes,

especially men's perfume,

consist of this flavour Musk.

Now muscone is also used to give

elegant and warm animal like scent.

Musk oil is used in perfume

cosmetics as well as in soaps.

Muscone constitutes a group

of perfume fixatives having a

characteristic persistent aroma.

Now natural Muscone is sourced from

the Musk deer. As you can see here,

an image of the Musk deer,

that is how Muscone gets its name,

and you have this structure of

Muscone along with its IUPAC name.

This is also a macrocyclic

Compound. Now,

because Muscone was sourced from

an animal, in order to prevent

the killing of this animal,

and alternative was found which is

synthetically prepared in the lab.

This alternative is Versalite,

which is a compound having 18 carbon atoms.

Now if you look, Muscone

is a 15 membered ring. It has

one methyl substituent

at the third position and it is an oily liquid.

One thing to remember is that it is

naturally occurring as a minus enantiomer.

So a brief summary of what we have studied.

Essential oils are organic terpenes found

naturally in plant and animal parts,

and extracted either by

distillation or cold pressing i.e. expression method in

the case of citrus fruits.

Use of essential oils in cosmetic industry.

A small summary.

The first one that was two phenylethyl

alcohol is used in eye makeup products,

shampoos,

perfumes etc.

Then there is Jasmone used for

lightning of acne scars which

imparts a glowing and radiant skin.

Hence it is used in skin care products.

Then there is Civetone which is a

perfume fixative and a flavouring agent

and muscone which is an essential

ingredient of perfumes and soaps.

Finally, Muscone and Civetone were originally

obtained from animal parts.

Nowadays,

synthetic alternatives having the

same odour and flavour have been

put to use. These are my

References, thank you.